

CLAIMS

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1. A high speed spindle motor for a disc drive comprising:
 - a) a shaft;
 - b) a disc support member attached to the shaft and including a permanent magnet;
 - c) a bearing surrounding the shaft;
 - d) a stator; and
 - e) a monolithically formed body that substantially encapsulates the stator, the body configured to align the shaft, disc support member and bearing with respect to one another.
 2. The high speed motor of claim 1 wherein the body surrounds the bearing.
 3. The high speed motor of claim 1 wherein the bearing comprises an upper bearing and a lower bearing.
 4. The high speed motor of claim 3 wherein the body substantially surrounds the upper bearing and the lower bearing.
 5. The high speed motor of claim 1 wherein the shaft is fixed relative to the body.
 6. The high speed motor of claim 1 wherein the shaft is freely rotatable relative to the body.
 7. The high speed motor of claim 1 wherein mounting features are formed in the body to mount the high speed motor to a hard disc drive.
 8. The high speed motor of claim 1 wherein an insert is substantially encapsulated within the body.

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9. The high speed motor of claim 1 wherein the permanent magnet is concentrically disposed around the stator.

10. The high speed motor of claim 1 wherein the stator concentrically surrounds the permanent magnet.

11. The high speed motor of claim 1 wherein a second magnet is substantially encapsulated within the body.

12. The high speed motor of claim 1 wherein the second magnet is an enhancement magnet.

13. The high speed motor of claim 1 wherein the second magnet is part of a magnetic bearing.

14. A high speed spindle motor for a disc drive comprising:

- a) a shaft;
- b) a disc support member attached to the shaft;
- c) a bearing disposed around the shaft;
- d) a stator; and
- e) a monolithically formed body that substantially encapsulates the stator, the monolithically formed body surrounding the bearings and the shaft.

15. The high speed motor of claim 14 wherein the bearing includes an upper bearing and a lower bearing.

16. The high speed motor of claim 14 wherein the body concentrically surrounds the upper bearing and the lower bearing.

17. The high speed motor of claim 14 wherein a solid insert is substantially encapsulated within the body.

18. The high speed motor of claim 14 wherein an enhancement magnet is substantially encapsulated within the body.

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19. The high speed motor of claim 14 wherein part of a magnetic bearing is substantially encapsulated within the body.

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